C-A OPERATIONS PROCEDURES MANUAL

TPL 03-03 PROCEDURE GOVERNING OPERATIONS FOR E960 AND FOR CONTROLLING ACCESS TO A3 PRIMARY CAVE FOR E960

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P. Ingrassia

TPL 03-03 Procedure Governing Operations For E960 And For Controlling Access To A3 Primary Cave For E960

1.0 Purpose

1.1 This procedure provides operating instructions to Main Control Room (MCR) Operators, and CAS (Collider Accelerator Support) personnel, and instructions for allowing NASA E960 experimenters rapid access to the A3 Primary Cave.

2.0 Responsibilities

2.1 RCTs are responsible for:

2.1.1 Performing surveys of the A3 Primary Cave the first time E960 requires access after an increase of intensity.

2.2 CAS Personnel and MCR Operators are responsible for:

2.2.1 sweeping the A3 Primary Cave free of personnel.

2.2.2 standing gate watch or remote gate watch to control access to the A3 Primary Cave

2.2.3 filling out gate log sheets (CAD OPM Att. 4.1.f C-A Gate Log Sheet for Remote Access)

2.2.4 granting simultaneous release to open the gate.

2.2.5 restoring A line clearance, opening the AGS A13 vacuum valve, and the TtB Beam stops.

2.2.6 turning the beam on and off as required.

2.4 The Liaison Physicist for E960 is responsible for providing a marked pathway on the experimental floor to guide E960 experimenters to their trailer.

2.5 The Liaison Scientist is responsible for ensuring experimenters enroll their iris in order to enter the A3 Primary Gate using the remote access feature.

2.6 The On duty Operations Coordinator shall obtain the bypass key from the locked RS LOTO cabinet behind MCR_2 to be used to release Controlled Access (CA) keys from the key tree for access to the A3 Primary Gate if the iris scanner fails

2.7 The on-duty Operations Coordinator is responsible for informing the on-duty RCT and CAS Supervisor ("Support 1") when the intensity for an E960 sample exposure was increased over the previous run.

3.0 Prerequisites

3.1 The target group for this procedure is MCR Operators, Operations Coordinators, and CAS personnel.

3.2 Persons who may act as trainers for this procedure include P. Ingrassia, P. Sampson or an MCR Operations Coordinator.

3.3 The training method requires that the target group (3.1 above) read and sign this procedure and review the following additional procedures:

3.3.1 C-AD OPM 4.70 "Procedure to Perform enrollment & Removal of Personnel in the Iridian EQU 2200 Iris Imager

3.3.2 C-AD OPM 4.72 "Entry Procedure for the NASA Experiment Using the Iridian Iris Reader

3.3.3 C-AD OPM 4.44 Operation of PASS – specifically paragraph 5.1.10 Remote Access – BAF Experiment Area

3.4 The training requirement for the Operations Coordinators also includes the review of C-AD OPM 4.71 "Use of Alternative to Iridian Iris Reader"

3.5 The minimum number of persons required to be trained before this procedure may be used is three, one Operations Coordinator one CAS technician, and one MCR operator.

3.6 Experimenters who need to access A3 Primary Gate have been enrolled in the Iridian Iris reader database.

3.7 The iris scan system is operational and "iris scan log" program is running on the PC at MCR_7.

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4.0 Precautions

4.1 PARTS of this procedure require practices that differ from existing Department Procedures. This Temporary Procedure authorizes the use of the following different practices that supercede existing procedure(s).

4.1.1 CAD OPM 4.1 "Procedure for Entry into Primary Radiation Areas Under Controlled Access Conditions"

4.1.1.1 The Operations Coordinator will not sign the Gate Log sheet (CAD OPM Att 4.1.f). Instead, the remote gate watch will verify that all entrants have exited. No OC signature will be required during remote access to A3 Primary Gate.

4.1.1.2 Paragraph 5.2.3.1 of OPM 4.1 is to be ignored -- C-A TPL 03-03 permits the gate watchstander to stand watch for periods greater than one hour.

4.1.1.3 OPM 4.1 paragraph 5.2.2.2.2 Note 4 is modified given the number of entries expected for the A3 Primary Cave. Re-sweep of A3 Primary Cave will occur if the cave has been opened for Controlled Access for TWO or more hours. There will be NO LIMIT on the number of entries to appear on the gate log sheet(s).

4.1.1.4 OPM 4.1 paragraph 5.2.2.2 is modified to allow MORE than one entrant to enter at a time. TWO users may "piggyback" during E960 Operation. A third user may piggyback if the Operations Coordinator approves.

4.1.1.5 OPM 4.1 paragraph 5.2.1.5 is modified to allow **one gate log sheet(s) for an eight hour shift.**

4.1.1.6 OPM 4.1 paragraph 5.2.4.2 is modified so that OC is NOT required to sign gate log sheet before beam stops are opened.

4.1.1.7 OPM 4.1 paragraph 5.2.1.9.1 requires an RCT survey before an access. The RCT survey is required whenever an access is made after a significant intensity increase. No provision is made for verification of RCT survey on the modified gate log sheet used for this procedure.

4.1.1.8 OPM 4.1 paragraphs 5.2.2.1 and 5.2.2.3 are modified. Entrants will sign in and sign out by having their iris scanned by the iris reader at the A3 Primary gate. The entrant will not sign the gate log sheet. The gate watch shall enter the LAST/FAMILY name of the entrant on the gate log sheet, the times the entrants iris was scanned, and will initial the entrant in and out on the gate log sheet.

4.1.1.9 C-AD OPM 4.71 "Use of Alternative to Iridian Iris Reader" paragraph 5.2 is modified. The bypass key to release keys from the key tree will be found locked in the "RS LOTO" locker in the closet behind MCR_2 and not in the safe in the QA office.

4.1.2 CAD OPM 9.5.11 "AGS Procedure for Access to Contamination and High Radiation Areas".

Note:
The A3 Primary Cave is "down posted" because it does not meet the requirements for a High Radiation Area (worker does not have the potential to receive a whole body dose of 100 mrem working for one hour)

4.1.2.1 Workers entering the A3 Primary cave need **not** fill out CAD OPM Attachment 9.5.11.a *Contamination Area and High Radiation Area Signoff List*.

4.1.3 TPL 99-19 "Procedure for Controlling Access to the A3 Primary Gate for E947" is attached and used if the iris scanner fails to release a Controlled Access key (token) for the A3 Primary Gate.

4.1.4 The "AGS Injection Checklist" AGS OPM Att. 6.1.9.a need not be filled out when repeated (within 30 minutes) entries to A3 Primary Cave are made by E960 personnel

4.1.5

5.0 Procedures

5.1 Before the E960 run begins:

5.1.1 The Liaison Physicist shall mark a path on the experimental floor that guides experimenters to their trailer.

5.1.2 The Liaison Scientist shall arrange with the C-AD Training Manager, for the iris enrollment of all experimenters who need to enter the A3 Primary Gate.

5.1.2.1 The Training Manager or the Associate Chairman for Safety have the authority to add to the list of trained persons approved to be enrolled in the iris scan system.

5.2 During the E960 run:

5.2.1 The on-duty Operations Coordinator shall inform the on-duty RCT and the CAS technicians when the intensity for an E960 sample exposure is increased over the previous run.

5.2.2 **Turning off the beam**

5.2.2.1 E960 May turn off the accelerator in either of two ways

5.2.2.1.1 by making a request to MCR for an operator to close the beam stops

5.2.2.1.2 by turning off the extracted beam in mid spill using an input to the beam inhibit system

Note:
E960 will ask or turn off the beam when they determine that a sample has been sufficiently exposed

5.2.3 Entering the A3 Primary Gate

Note:
An RCT survey is required before experimenter access whenever intensity is increased significantly from the previous access.

5.2.3.1 Follow OPM 4.44 (Operation of Pass) paragraph 5.1.10 – Remote Control Access – BAF Experimental Area in order to conduct remote access at the A3 Primary Gate. Ignore any "BAF specific" instructions.

5.2.3.2 Reset A3 Primary Gate remotely by turning 698 key in the keyswitch at MCR_7-5 while simultaneously pressing simultaneous release pushbutton.

5.2.3.3 Gate watch verifies the A3 Sweep is good by looking at the green "Sweep

OK" lamp at MCR_7. IF the sweep is OK THEN the lamp is lighted green.

5.2.3.4 Gate watch asks OC to order

5.2.3.4.1 The A line gate Redundant reset to be reset (MCR_2-1S4)
5.2.3.4.2 AGS vacuum valves (A13 critical device) opened (MCR_1-1U)
5.2.3.4.3 A line clearance established (30 second delay from gate reset)
5.2.3.4.4 TTB beam stops opened
5.2.3.4.5 Reset of Beam Inhibit System (BIS) (pet page) if the BIS was used to abort the beam.

5.2.4 Turning on the Beam

5.2.4.1 The operator in the MCR shall

5.2.4.1.1 IF the beam was disabled in the MCR
- a. Restore A line Clearance if it was lost
- b. Restore AD4&9 and AD5-8 to A polarity and setpoint if appropriate
- c. Open AGS A13 vacuum valve
- d. Open the beam stops when asked to do so by the Operations Coordinator.

5.2.4.1.2 IF the beam was disabled by E960
- a. reset the redundant reset for the A line when asked to do so by the gate watch and restore A line Clearance
- b. Clear the G10/H20 beam inhibit if E960 inhibited the beam.
- c. Open AGS A13 vacuum valve.
- d. Open the beam stops when asked to do so by the OC.

5.2.5 Failure of the iris scanner to cause the release of a Controlled Access key (Token)

5.2.5.1 IF the iris scanner at the A3 Primary Gate fails to cause the release of the Controlled Access key (token) from the key tree, THEN

5.2.5.1.1 The OC shall send an operations group member who is enrolled in the iris scan database to verify the operation of the iris scanner.

5.2.5.1.2 IF the iris scan works for the operations group member THEN re-enroll the experimenter with the "problem eyes"

5.2.5.1.3 IF the iris scan does not work for the operations group member THEN remote access for A3 Primary Gate must be abandoned and two gate watches stationed at A3 Primary Gate (TPL 99-19)

5.2.5.1.4 The OC shall retrieve the cancelled (attached) Temporary Procedure TPL 99-19 "Procedure for Controlling Access to the A1 Primary Gate for

E947" and implement it.

5.2.5.1.5 OC shall obtain iris scan bypass key from "RS LOTO" keylocker in the closet behind MCR_2.

5.2.5.1.6 OC shall instruct the gate watch to follow C-AD OPM 4.71 "Use of Alternative to Iridian Iris Reader" in order to release CA keys from the keytree.

5.2.5.1.7 Have local gatewatch release the CA keys from keytree using bypass key in the "KeyTree bypass switch" located to the right of the key tree. (see item 3 on page 4 of C-AD OPM 4.72 "Entry Procedure for NASA Experiment Using the Iridian Iris Reader" for equipment layout

5.2.6 Enrolling experimenters in the Iridian Iris scan database.

5.2.6.1 During normal working hours, NASA experimenters will be enrolled in the iris scan database by a member of the ESHQ Division Training Group.

5.2.6.2 During other hours MCR Operators are permitted to enroll NASA experimenters in the iris scan database.

5.2.6.2.1 In order to be enrolled by an operator, the experimenter must present a signed white "C-A Fixed Target Qualification Card". All five requirements on the card must be checked.

5.2.6.2.2 The Operator shall follow C-AD OPM 4.70 "Procedure to Perform Enrollment and Removal of Personnel in the Iridian EQU 2200 Iris Imager" in order to enroll experimenters in the database. Perform the enrollment using the iris scanner at MCR_7.

6.0 Documentation

6.1 C-AD OPM Att. 4.56.l SEB A3 Primary Sweep Checklist

6.2 C-AD OPM Att. 4.1.f C-A Gate Log Sheet for Remote Access

7.0 References

7.1 C-AD- OPM ATT 4.56.l SEB A3 Primary Cave Sweep Checklist

7.2 C-AD -OPM 4.1 Procedure for Entry into Primary Radiation Areas Under Controlled Access Conditions.

7.3 C-AD OPM 4.71 "Use of Alternative to Iris Reader"

7.4 C-AD OPM 4.72 "Entry Procedure for the NASA Experiment Using the Iridian Iris Reader"

7.5 C-AD OPM 4.70 "Procedure to Perform Enrollment and Removal of Personnel in the Iridian EOU 2200 Iris Imager"

8.0 Attachments

8.1 TPL 99-19 Procedure for Controlling Access to A1 Primary Gate for E947